

EA



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,503	11/07/2001	John Starr	046700-5055	9984

7590 08/18/2005

Daniel H. Golub  
Morgan, Lewis & Bockius LLP  
1701 Market Street  
Philadelphia, PA 19103

EXAMINER

WU, RUTAO

ART UNIT	PAPER NUMBER
----------	--------------

3639

DATE MAILED: 08/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/045,503	<b>Applicant(s)</b> STARR ET AL.	
	<b>Examiner</b> Rutao Wu	<b>Art Unit</b> 3639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2001.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/27/02</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Reference numerals 22A and 22B in [0042] lines 2 and 3 are not in the drawings. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because Fig. 3 in [0039] line 2 should be Fig. 4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and

where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The use of the trademark INTEL CORPORATION™ and MOTOROLA™ has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-15 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. A claim limited to a machine or manufacture which has practical application in the technological arts is statutory. In most cases, a claim to a specific machine or manufacture will have practical application in the technological arts. See MPEP 2106, 2100-14 (quoting *In re Alappat*, 33 F.3d at 1544, 31 USPQ2d at 1557). Additionally, for subject matter to be statutory, the claimed process must be limited to a practical application of the abstract idea or mathematical algorithm in the technological arts. See *In re Alappat* 33 F.3d at 1543, 31 USPQ2d at 1556-57 (quoting *Diamond V. Diehr*, 450 U.S. at 192, 209 USPQ at 10). For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts. See *In re Musgrave*, 431 F.2d 882, 167 USPQ 280 (CCPA 1970).

In the present case, claims 1-15 only recites an abstract idea. The recited steps of merely soliciting bids from suppliers for a plurality of lots and performing a mathematical analysis to determine the optimal solution for the direct cost of the lot

Art Unit: 3639

does not apply, involve, use, or advance the technological arts since all of the recited steps can be performed in the mind of the user or by use of a pencil and paper. These steps only constitute an idea of how to select the optimal solution from the numerous bids from the suppliers.

As to technological arts recited in the preamble, mere recitation in the preamble (i.e., intended or field of use) or mere implication of employing a machine or article of manufacture to perform some or all of the recited steps does not confer statutory subject matter to an otherwise abstract idea unless there is positive recitation in the claim as a whole to breathe life and meaning into the preamble. In the present case, none of the recited steps are directed to anything in the technological arts as explained above. Looking at the claim as a whole, nothing the body of the claim recites any structure or functionality to suggest that a computer performs the recited steps. Therefore, the preamble is taken to merely recite a field of use.

Additionally, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. An invention, which is eligible or patenting under 35 U.S.C. 101, is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The fundamental test for patent eligibility is thus to determine whether the claimed invention produces a "use, concrete and tangible result". See *AT&T v. Excel Communications Inc.*, 172 F.3d at 1358, 50 USPQ2d at 1452 and *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d at 1373, 47 USPQ2d at 1601

(Fed. Cir. 1998). The test for practical application as applied by the examiner involves the determination of the following factors”

(a) “Useful” – The Supreme Court in *Diamond v. Diehr* requires that the examiner look at the claimed invention as a whole and compare any asserted utility with the claimed invention to determine whether the asserted utility is accomplished. Applying utility case law the examiner will note that:

- i. the utility need not be expressly recited in the claims, rather it may be inferred.
- ii. if the utility is not asserted in the written description, then it must be well established.

(b) “Tangible” – Applying *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than a manipulation of an abstract idea and therefore, is nonstatutory under 35 U.S.C. 101. In *Warmerdam* the abstract idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium, which enabled its functionality to be realized.

(c) “Concrete” – Another consideration is whether the invention produces a “concrete” result. Usually, this question arises when a result cannot be assured. An appropriate rejection under 35 U.S.C. 101 should be

accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

In the present case, the claimed invention produces optimal solutions (i.e., repeatable) used in determining and selecting the supplier(s) of a lot of goods (i.e., useful and tangible).

Although the recited process produces a useful, concrete, and tangible result, since the claimed invention, as a whole, is not within the technological arts as explained above, claims 1-15 is deemed to be directed to non-statutory subject matter.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-23 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Publication US 2001/0037281 A1 to French et al (hereafter referred to as French).

7. French describes a Request For Quote (RFQ) system that includes all the limitations recited in claims 1-23. See the specifications portion of the application.

Referring to claim 1:

- soliciting bids from a plurality of suppliers for a plurality of lots;



French states in his application that consumer submits a request for a price quote on a certain product to an electronic staging area [0006].

- receiving at least one bid from a supplier for each lot;

French states in his application that the request for quote is forwarded to at least two carriers who compete with one another during a specified auction period to provide the consumer with the best price quote for the product [0006].

- storing the bids from each supplier in a database; and

French states in his application an electronic medium such as a computer, along with the available databases that will maintain the RFQ system and method [0023].

- generating at least a first and second optimal solution from the bids in the database, the first optimal solution having a different number of suppliers than the second optimal solution.

French states in his application multiple phases to the auction. There could be N initial bids in phase I, at the end of phase I, the buyer would choose a number of finalists to go on to phase II to continue the bidding to further narrow down the number of carriers [0040]. Therefore, the end of phase I would be the first optimal solution, and the end of phase II would be the second optimal solution having a different number of bidders.

Referring to claim 2:

- selecting the number of suppliers for each optimal solution;

French states in his application that for each phase of the auction, the number of approved carriers are chosen by the buyer [0040].

- determining lowest bids received from the number of suppliers for the lots for each optimal solution;

French states in his application that the customer would select the carriers with the most competitive quotes at the end of each phase, and that either the lowest quote or the highest quote as the most competitive quote, depending on the good or service [0047].

- calculating a direct cost from the lowest bids received from the number of suppliers for each optimal solution; and

French states in his application that the customer would select the lowest quote as the most competitive quote [0047]. In this case, the optimal solution includes one carrier, and the direct cost would be the lowest quote. In a case when the optimal solution includes multiple carriers, then the direct cost would be the total of the lowest quotes.

- providing each optimal solution to a buyer.

French states in his application that the RFQ system is configured so that quotes could be viewed at the customer interface [0043].

Referring to claim 3:

- choosing a minimum cost; and

French states in his application that the customer could indicate a "ceiling quote", or a maximum price above which the customer would not want to receive a quote on the desired product. Also, the customer could indicate a "floor quote", or a price below which the customer would not want to receive a quote on a certain product [0034].

Art Unit: 3639

- determining the optimal solution with a direct cost being at least the minimum cost.

French states in his application the broker interface would pre-screen all quotes to ensure that each was at or below the specified ceiling quote, or alternatively, was at or above the specified floor quote [0034]. Therefore, all the competitive quotes would be at least the minimum cost in the case of a floor quote.

Referring to claim 4:

- removing the bids from at least one undesired supplier.

French states in his application that after phase I, the buyer would select a number of finalists to go on to phase II [0040]. Thus removing the bids from at least one undesired supplier.

Referring to claim 5:

- providing the optimal solution with lowest bids from the suppliers other than the at least one undesired supplier.

French states in his application a phase II of the auction, which include only the chosen suppliers [0040].

Referring to claim 6:

- choosing the bids from at least on preferred supplier.

Art Unit: 3639

French states in his application at the end of phase II, the buyer would select the carrier with the either the lowest quote or the highest quote as the most competitive quote, depending on the good or service [0047].

Referring to claim 7:

- providing the optimal solution with lowest bids from the at least one preferred supplier for the lots on which the at least one preferred supplier bid lower than other suppliers and lowest bids from the other suppliers for the lots on which the at least one preferred supplier did at least one of not bid and not bid the lowest bid.

The examiner understood the claim as: providing the optimal solution made up of the bids from the preferred supplier for the lots which the preferred supplier bid the lowest and the bids from other suppliers for the lots on which the preferred supplier either did not bid or not have the lowest bid.

French states in his application that at the end of phase I, the buyer will chose a number of finalist carriers who had submitted the best initial quotes to go on to phase II [0040].

The carrier with the lowest bid will be included in the finalist carriers. If the carrier did not bid or was not among the lowest bidders, then he would not be included in the finalist carriers.

Referring to claim 8:

- ranking the bids in accordance with cost.

Art Unit: 3639

French states in his application that an optional feature of his invention would allow the customer to sort the quotes according to one or more parameters, such as for example, highest to lowest quote [0046].

Referring to claim 9:

- identifying at least one of goods and services to be purchased.

French states in his application, the customer can consummate the transaction by submitting an actual purchase order for the product to the "winning" carrier [0047].

Referring to claim 10:

- display at least one of the first and second optimal solutions.

French states in his application that after the auction, the broker would post all the quotes submitted, which preferably would include the best or most competitive quote in the staging area [0047].

Referring to claim 11:

- assigning an integer value to each lowest bid in each lot.

French states in his application that optional statistics could be posted by the broker with the winning quote [0047].

Referring to claim 12:

Art Unit: 3639

- a first supplier that bid on at least one of a first lot, a second lot, a third lot and a fourth lot;
- a second supplier that bid on at least one of the first lot, the second lot, the third and the fourth lot;
- a third supplier that bid on at least one of the first lot, the second lot, the third lot, and the fourth lot; and
- a fourth supplier that bid on at least one of the first lot, the second lot, the third lot, and the fourth lot.

French states in his application the request for quote is forwarded to at least two carriers who compete with one another during a specified auction period to provide the consumer with the best price quote for the product [0006]. French further states, after the first quote was posted, a second carrier could choose to submit a second quote [0043].

Referring to claim 13:

- the first optimal solution, having a first cost, for three suppliers, the first optimal solution listing the first supplier as a provider for at least one of the first, second, third and fourth lots and having a first cost, the third supplier as the provider for at least one of the first, second, third, and fourth lots, and the fourth supplier as the provider for at least one of the first, second, third and fourth lots; and

Art Unit: 3639

French states in his application in phase I of the RFQ system that each carrier would submit its initial quote without knowing another carrier's quote [0037], and also may be allowed to update its quote after viewing the quotes submitted by other carriers[0039].

- the second optimal solution, having a second cost, for two suppliers, the second optimal solution listing the third supplier as the provider for at least one of the first, second, third, and fourth lots, and the fourth supplier as the provider for at least one of the first, second, third and fourth lots.

French states in his application that finalists from phase I are chosen to participate in phase II [0040]. The first carrier would transmit a first or open bid. Preferably more competitive than the initial quote submitted in phase I [0042]. After the first quote was posted, a second carrier could choose to submit a second quote [0043].

Referring to claim 14:

- selecting one of the optimal solutions.

French states in his application the customer can select one carrier in phase I and go with that carrier's quote on the product, obviating the need to proceed to Phase II altogether[0040]. Or after the completion of phase II, consummate the transaction by submitting an actual purchase order for the product to the "winning" carrier [0047].

Referring to claim 15:

- identifying at least one of goods and services to be purchased;

French states in his application, the customer can consummate the transaction by submitting an actual purchase order for the product to the "winning" carrier [0047].

- soliciting bids from a plurality of bidders for a plurality of lots;

French states in his application that consumer submits a request for a price quote on a certain product to an electronic staging area [0006].

- receiving at least one bid from a supplier for each lot;

French states in his application that the request for quote is forwarded to at least two carriers who compete with one another during a specified auction period to provide the consumer with the best price quote for the product [0006].

- storing the bids from each supplier in a database;

French states in his application an electronic medium such as a computer, along with the available databases that will maintain the RFQ system and method [0023].

inputting the bids into an optimization routine, including

- selecting the number of suppliers for at least a first and second optimal solution;

French states in his application that for each phase of the auction, the number of approved carriers are chosen by the buyer [0040].

- determining lowest bids received from the number of suppliers for the lots for each optimal solution;

French states in his application that the customer would select the carriers with the most competitive quotes at the end of each phase, and that either the lowest quote or the highest quote as the most competitive quote, depending on the good or service [0047].



- calculating a direct cost from the lowest bids received from the number of suppliers for each optimal solution;

French states in his application that the customer would select the lowest quote as the most competitive quote [0047]. In this case, the optimal solution includes one carrier, and the direct cost would be the lowest quote. In a case when the optimal solution includes multiple carriers, then the direct cost would be the total of the lowest quotes.

- displaying each optimal solution; and

French states in his application that the RFQ system is configured so that quotes could be viewed at the customer interface [0043].

- choosing one of the optimal solutions.

French states in his application the customer can select one carrier in phase I and go with that carrier's quote on the product, obviating the need to proceed to Phase II altogether[0040]. Or after the completion of phase II, consummate the transaction by submitting an actual purchase order for the product to the "winning" carrier [0047].

Referring to claim 16:

- a database for receiving and storing bid information from a plurality of suppliers for a plurality of lots; and

French states in his application an electronic medium such as a computer, along with the available databases that will maintain the RFQ system and method [0023].

Art Unit: 3639

- software for generating at least a first and second optimal solution from the bid information, the first optimal solution having a different number of suppliers than the second optimal solution.

French states in his application an electronic medium such as a computer, along with the available databases, hardware and software that will program and maintain the RFQ system and method [0023].

Referring to claim 17:

- the bid information comprises at least one bid from a supplier for each lot.

French states in his application the request for quote is forwarded to at least two carriers who compete with one another during a specified auction period to provide the consumer with the best price quote for the product [0006]. French further states, after the first quote was posted, a second carrier could choose to submit a second quote [0043].

Referring to claim 18:

- at least one of the first and second optimal solutions comprises a chosen supplier for each lot.

French states in his application that the customer would effectively choose the carriers to participate in the RFQ process and subsequent auction [0033]. Therefore, the optimal solutions include a chosen supplier.

Referring to claim 19:

Art Unit: 3639

- a first machine readable code that receives and stores bid information from a plurality of suppliers for a plurality of lots;

French states in his application an electronic medium such as a computer, along with the available databases that will maintain the RFQ system and method [0023].

- a second machine readable code that generates at least a first and second optimal solution from the bid information, the first optimal solution having a different number of suppliers than the second optimal solution; and

French states in his application an electronic medium such as a computer, along with the available databases, hardware and software that will program and maintain the RFQ system and method [0023].

- a third readable code that transmits the optimal solution to a buyer.

French states in his application that the customer interface shall be an electronic medium, and more preferably shall include a website on the internet accessible by a computer [0022].

Referring to claim 20:

- the bid information comprises at least one bid from a supplier for each lot.

French states in his application the request for quote is forwarded to at least two carriers who compete with one another during a specified auction period to provide the consumer with the best price quote for the product [0006]. French further states, after the first quote was posted, a second carrier could choose to submit a second quote [0043].

Referring to claim 21:

- at least one of the first and second optimal solutions comprise a chosen supplier for each lot.

French states in his application that the customer would effectively choose the carriers to participate in the RFQ process and subsequent auction [0033]. Therefore, the optimal solutions include a chosen supplier.

Referring to claim 22:

- at least one bid on a first, second, third, and fourth lot from a first supplier; at least one bid on the first, second, third, and fourth lots from a second supplier, at least one bid on the first, second, third, and fourth lots from a third supplier, and at least one bid on the first, second, third, and fourth lots from a fourth supplier.

French states in his application the request for quote is forwarded to at least two carriers who compete with one another during a specified auction period to provide the consumer with the best price quote for the product [0006]. French further states, after the first quote was posted, a second carrier could choose to submit a second quote [0043].

Referring to claim 23:

- the first optimal solution, having a first cost, for three suppliers, the first optimal solution listing the first supplier as a provider for at least one of the first, second,

third and fourth lots and having a first cost, the third supplier as the provider for at least one of the first, second, third, and fourth lots, and the fourth supplier as the provider for at least one of the first, second, third and fourth lots; and

French states in his application in phase I of the RFQ system that each carrier would submit its initial quote without knowing another carrier's quote [0037], and also may be allowed to update its quote after viewing the quotes submitted by other carriers[0039].

- the second optimal solution, having a second cost, for two suppliers, the second optimal solution listing the third supplier as the provider for at least one of the first, second, third, and fourth lots, and the fourth supplier as the provider for at least one of the first, second, third and fourth lots.

French states in his application that finalists from phase I are chosen to participate in phase II [0040]. The first carrier would transmit a first or open bid. Preferably more competitive than the initial quote submitted in phase I [0042]. After the first quote was posted, a second carrier could choose to submit a second quote [0043].

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to auctioning systems in general:

U.S. Pat No. 6,216,114 to Alaia et al.

U.S. Pat No. 5,835,896 to Fisher et al.

U.S. Pat No. 5,803,500 to Mossberg.

U.S. Pat No. 5,243,515 to Lee

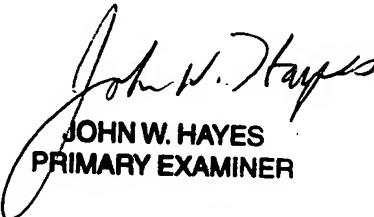
U.S. Pat No. 4,789,928 to Fujisaki.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rutao Wu whose telephone number is (571)272-3136. The examiner can normally be reached on Mon-Fri 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on (571)272-6708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

rw

  
**JOHN W. HAYES**  
**PRIMARY EXAMINER**